

Goethe and Steiner as Pioneers of Emergence

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Summary

Powerful critiques such as Thomas Nagel's *Mind & Cosmos* have revealed the fundamental inadequacy of reductionism. In response, a new paradigm of "emergence" has begun to emerge. However, this nascent paradigm lacks both a clear sense of its own genealogy and an adequate epistemology. Hence it is not surprising that a strong or "ontological" form of "emergence" has failed to overcome reductionist habits of thought. This paper suggests an alternative genealogy in the work of Hoffmeyer, Merleau-Ponty and Uexküll, and it argues that the missing epistemological foundations of a non-reductive science of living organisms can be found in Goethe's scientific writings, especially as interpreted in Rudolf Steiner's *Grundlinien*. This revised view opens up the prospect of an alternative account of evolution that might even be termed a "biology of freedom."

Zusammenfassung

Mit seinem Buch «Geist und Kosmos» hat Thomas Nagel – wie andere vor ihm – eine schlagkräftige Kritik der grundlegend unzureichenden Aspekte des wissenschaftlichen Reduktionismus formuliert. In Reaktion auf diese Kritik hat sich in der Wissenschaftsphilosophie ein neues Paradigma – «Emergenz» – entwickelt. Diesem neu aufkeimenden Paradigma fehlt aber sowohl eine klare Bestimmung seiner eigenen Entstehungsgeschichte als auch eine adäquate Erkenntnistheorie. So überrascht es nicht, dass die vertraute reduktionistische Denkart bis heute nicht durch eine starke ontologische Version des Emergenzdenkens überwunden werden konnte. Dieser Beitrag präsentiert eine alternative Entstehungsgeschichte des Emergenzbegriffs in den Arbeiten von Hoffmeyer, Merleau-Ponty und Uexküll und vertritt die Auffassung, dass die fehlenden epistemologischen Grundlagen einer nicht-reduktiven Wissenschaft des lebendigen Organismus in Goethes naturwissenschaftlichen Schriften gefunden werden kann, insbesondere in der Interpretation Rudolf Steiners in den «Grundlinien einer Erkenntnistheorie der Goetheschen Weltanschauung». Diese revidierte Sichtweise eröffnet die Perspektive auf eine alternative Darstellung der Evolution, die sogar als «Biologie der Freiheit» bezeichnet werden könnte.

The Crisis of Reductionism

A remarkable book was published in 2012 by the eminent analytic philosopher Thomas Nagel, *Mind & Cosmos: Why the Materialist Neo-Darwinian Conception of Nature is Almost Certainly False*¹ (Nagel 2012). Despite the

¹ Here I follow my previously published review of Nagel's book and its reception, "Provoking a Crisis," *being human*, Michaelmas-Fall 2015, pp. 46-50.

rather sensational subtitle, Nagel's book is not about Darwinism specifically. It is about something even larger: the whole materialist, reductionist paradigm as such. Nagel's argument is that materialist reductionism is fundamentally incapable of explaining a wide range of crucial phenomena, including *life, consciousness, human reason, the lawfulness of the universe, and moral values*. Because it has no adequate explanation of consciousness and reason, the prevailing paradigm cannot even begin to explain how science of *any kind* is possible. Moreover, the prospect of finding reductionist explanations of all these fundamental *natural phenomena* (for such they are) is effectively nil. This stinging indictment has called forth a storm of controversy and criticism within the philosophical and scientific establishment, but no persuasive rebuttals, which makes Nagel's intervention doubly shocking. Indeed, the weakness and incoherence of the response only confirms that Nagel's critique is well founded.

Let us consider briefly just the first two items in this declaration of intellectual bankruptcy, life and consciousness. First, *Life*: Nagel devotes little space to this problem because there's no real argument about it. The prevailing paradigm seldom even attempts to answer this question, and when it does, the process is purely – sometimes wildly – speculative, as in the case e.g. of Francis Crick's "directed panspermia." The explanation most often invoked is blind chance – which is to say, the absence of any explanatory principle dressed up to look like an explanatory principle. But really, this question was decided within mainstream physics already in 1944, when Erwin Schrödinger declared in his essay "What is Life?" that living organisms "feed on negative entropy" (*Schrödinger* 1992, p. 71) "evade the decay to equilibrium" (p. 69), and "drink orderliness" from their environments (p. 77). "In short," Schrödinger argues, "from all we have learnt about the structure of living matter, we must be prepared to find it working in a manner that cannot be reduced to the ordinary laws of physics" (p. 76); "we must be prepared to find a new type of physical law prevailing in it" (p. 80).

Second, *Consciousness*: Reductionists themselves refer to this as "the hard problem." One might call this lack a congenital defect, since it dates from the moment modern science was born. Cartesian dualism not only fails to solve the "mind-body problem": it created the problem intentionally so that it could pursue materialistic determinism untroubled. Scientific progress was purchased at the price of exporting the mind and all its phenomena to a separate realm, and then declaring the physical substrate to be the sole and proper domain of science. Now, after half a millennium, materialist reductionism has begun simply to deny the very existence of an inner life: *there is no mind*; what feels like mind is just "sparks and drips at the synapses,"